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Organized by G.J. de Moraes, R.C. Castilho & C.H.W. Flechtman

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## 201 - Morphometric study of hard tick *Hyalomma anatolicum* male specimens from western Iran

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Species of hard ticks (Ixodoidea: Ixodidae) are efficient vectors of important pathogenic agents of both animals and human. Despite this notable effect, the taxonomic status and identification hard ticks of the genus *Hyalomma* have been debatable. *Hyalomma anatolicum* is one of these species; it is most abundant *Hyalomma* species in Iran. In spite of the great role of *H. anatolicum*, little research has been done on morphologic aspects of this species. There is no complete and comprehensive identification key for all Iranian *Hyalomma* species and the diagnostics are based on keys constructed

for use in neighboring countries. The first step for the preparation of a good identification key is recognition of the morphologic characteristics of species in it's the areas where it is recognized to occur; correct identification will be possible when a sufficiently large number of specimens are examined. The present study aimed to perform the first step toward solving this problem on one of the

most important *Hyalomma* species of Iranian fauna. This study is part of an extensive research conducted basically all over the Iranian territory. Specimens of *H. anatolicum* were collected from five geographic regions of the Khuzestan and Lorestan provinces and morphometrically examined for valuable identification characteristics or traits to separate it from other closely related species. The studied parameters included seven quantitative, three qualitative and four comparative parameters, which were measured under stereomicroscope. The collected data were analyzed by SPSS software (Version-16.0) using ANOVA and T-test and the corresponding statistical tables were prepared. Afterwards, morphological variations in different geographic regions were drawn using a drawing tube connected to a light stereomicroscope. The result showed that all of the studied quantitative parameters in five regions had significance differences with each other. Also, among the comparative parameters, except lateral groove/scutal length ratio, the other parameters were statistically meaningful. T-test analysis for qualitative parameters revealed the significance of some quantitative parameters in the two groups: group one (with qualitative parameter) and group two (without qualitative parameter). The interpretation of the results of this work showed the existence variation of morphologic parameter in *H. anatolicum* in five geographic regions and that only trait of the lateral groove/scutal length ratio was stable. It is suggested that the amplitude and quantity of morphologic parameters of *H. anatolicum* should be considered for correct identification and key preparation of this species in further studies.